

CUSTOMER NO.: 24498
Serial No.: 09/942,387
Office Action dated: December 21, 2004
Response dated: April 19, 2005

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Remarks/Arguments

The Non-Final Office Action mailed December 21, 2004 has been received and carefully considered. Claims 1 - 7 are pending in the application.

Claims 1 and 3 - 7 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Hannah (U.S. Patent No. 5,784,581, hereinafter "Hannah") in view of Meirzman (U.S. Patent No. 6,636,923, hereinafter "Meirzman"). Claim 2 stands rejected under 35 U.S.C. § 103 (a) as being unpatentable over Hannah in view of Merisman and in view of standard USB implementation as evidenced by Russell (US Patent No. 6,584,519, hereinafter "Russell"). Claim 1 also stands rejected under the judicially created doctrine of obvious-ness-type double patenting as being unpatentable over claim 2 of U.S. Patent Application No. 09/943,746. Applicants respectfully traverse the rejections.

Claim 1 has been amended. It is believed no new matter has been added.
Claim 1, as amended recites:

- a switching circuit comprising a first pin connected to said first connector, a second pin connected to said at least one second connector and a third pin connected to an input/output pin of a controller, such that said controller is linked to one of said first connector and said at least one second connector;

- means for detecting the presence of the supply voltage on the first connector, the means for detecting triggering a master mode of operation of the apparatus in relation to the peripheral apparatus in the case of the absence of the voltage, and to a slave mode of operation in relation to the master apparatus when the voltage is present, wherein the means for detecting the presence of the supply voltage controls the switching circuit for permitting communication either between the apparatus and the peripheral apparatus connected via the second connector in the case of an absence of the supply voltage or between the apparatus and the master apparatus when said supply voltage is present.
(emphasis added)

Regarding the double patenting rejection, taking into account the amendments to the present invention, Applicants believe that the protection sought by the two inventions are patentably distinct.

The apparatus claimed in the U.S. Patent Application No. 09/943746 comprises "means of detection of the presence of the supply voltage (VBUS) in the first connector, the means of detection being linked to the first connector and generating a

switching control signal to the switching circuit, so as in response to the presence of the supply voltage to switch the apparatus from a first mode of operation where the switching circuit establishes a communication between the master apparatus connected to the first connector and at least one peripheral connected to at least one second connector." (emphasis added)

Therefore, it is clear that in the first mode of operation the master apparatus (connected to the connector 12) can communicate with the device 1 and with the apparatus connected to the connector 12.

In the present invention, the claimed apparatus comprises "means for detecting the presence of the supply voltage on the first connector, the means for detecting triggering a master mode of operation of the apparatus in relation to the peripheral apparatus in the case of the absence of the voltage, and to a slave mode of operation in relation to the master apparatus when the voltage is present, wherein the means for detecting the presence of the supply voltage controls the switching circuit for permitting communication either between the apparatus and the peripheral apparatus connected via the second connector n the case of an absence of the supply voltage or between the apparatus and the master apparatus when said supply voltage is present.

Therefore, it is clear that according to Claim 1 of the present invention as amended, the switching circuit establishes a communication either between one apparatus, or between another apparatus, but not both. Thereby, the scopes of the two independent claims are not coincident. Consequently, the dependent claims of each invention are patentably distinct.

The present invention is directed to an apparatus that includes a switching circuit for changing or altering the operating mode of the apparatus from a master mode to a slave mode or vice versa, in response to the presence of a supply voltage. Specifically, the present invention discloses a switching circuit and a means for detecting a presence of the supply voltage, wherein the means for detecting the presence of the supply voltage controls the state of the apparatus and the switching circuit. Further, as recited in amended Claim 1, the controller is linked to one of said first connector and said second connector.

The Examiner admits that Hannah does not describe detecting the presence of the master apparatus by detecting a power supply. At col. 5, line 63 Hannah describes

"A timer 45 is connected to device controller 44 and operates as a watchdog timer by generating a timeout signal used to determine the presence or absence of an active host controller.". Therefore, the means for determining the presence or absence of an active host control is this timer 45. Further at col. 6, line 12 Hannah describes "When an active host controller is coupled to privileged port 40, peripheral device 34 will function properly as a USB slave device regardless of whether any USB devices are coupled to hub 42." Therefore, the timer 45 determines the state slave/master of the device 34. But, Hannah does not teach that the timer controls the communication directly. In contrast, Hannah describes "When device 34 is operating as a USB slave, then hub 42 is disabled and disregards any USB devices connected to hub 42." Fig. 4 shows that the timer sends a signal to the device controller 44. This signal cannot directly affect the communication between the device controller and port 40 or the HUB 42. According to Hannah, after receiving the signal the device controller 44 enables or disables the communication port.

Therefore, a "means for detecting the presence of the supply voltage on the first connector, the means for detecting triggering a master mode of operation of the apparatus in relation to the peripheral apparatus in the case of the absence of the voltage, and to a slave mode of operation in relation to the master apparatus when the voltage is present, wherein the means for detecting the presence of the supply voltage controls the switching circuit for permitting communication either between the apparatus and the peripheral apparatus connected via the second connector n the case of an absence of the supply voltage or between the apparatus and the master apparatus when said supply voltage is present. " is not taught nor suggested by Hannah. This feature avoids management of communication by the main processor.

At col. 4, lines 31 - 37, Meirsman describes an apparatus 20 that operates as a normal hub if a host station is connected to the host connector 26 and as a host processor without the host station connected to the host connector 26. In the last case, the local host processor 24 can communicate with slave stations connected to the plurality of slave connectors 28a-c. Meirsman describes that a new station pulls up a potential on a pin of the connector thereby the station recognizes the presence of a new apparatus (see col. 4, line 9). The management of the plurality of slave connectors is carried out by flags (see col. 5 lines 53 - 57 and Fig. 2 showing the flag storage 29).

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Therefore, it is clear that the means of detecting the potential on a pin of a connector does not directly controls the communication such as recited in claim 1 as amended.

In conclusion, concerning the manner of managing the communication of the circuit, Hannah and Meirsman describe that the controller can receive information relative to an electric signal applied on a connector and manage the communication. Neither Hannah nor Meirsman teach nor suggest that the information relative to an electric signal directly controls the switching circuit for communication either between the apparatus with the peripheral apparatus connected with the second connector in the case of the absence of the voltage (VBUS) or between the apparatus with the master apparatus when the voltage is present. It is therefore submitted that the invention recited by the present claim 1 is not taught or disclosed in the Hannah patent take alone or in combination with Meirsman patent.

Regarding claim 2, Applicants respectfully submit that Russell fails to cure the defects of Meirsman regarding independent claim 1 as amended. It is, therefore, respectfully submitted that claim 2, which depends from claim 1 is patentably distinguishable over the combination of Meirsman and Russell for at least the reasons discussed above as well as the additional features recited in claim 2.

In light of the above remarks, it is respectfully submitted that independent claim 1 is not anticipated and is patentable over the art of record. Claims 3 - 7 depend directly or indirectly from independent Claim 1. It is, therefore, respectfully submitted that Claims 3 - 7 are also not anticipated and are patentable over the art of record for at least these reasons as well as additional features contained therein.

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Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicants' attorney at (609) 734-6440, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Respectfully submitted,
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